

Title (en)
VACCINES CONTAINING ATTENUATED BACTERIA

Title (de)
IMPFSTOFFE DIE ABGESCHWÄCHTE BAKTERIEN ENTHALTEN

Title (fr)
VACCINS CONTENANT DES BACTERIES ATTENUEES

Publication
EP 1037664 A1 20000927 (EN)

Application
EP 98959023 A 19981210

Priority

- GB 9803680 W 19981210
- GB 9726233 A 19971211

Abstract (en)
[origin: WO9929342A1] The invention relates to a vaccine comprising a bacterium attenuated by a non-reverting mutation in a gene encoding a protein which promotes folding of extracytoplasmic proteins. Such mutations were initially identified as being useful in vaccines from a bank of randomly inserted, transposon mutants in which attenuation was determined as a reduction in virulence of the organism in the mouse model of infection. Site directed mutation of the gene results in a strain which shows at least 4 logs of attenuation when delivered both orally and intravenously. Animals vaccinated with such a strain are protected against subsequent challenge with the parent wild type strain. Finally, heterologous antigens such as the non-toxic and protective, binding domain from tetanus toxin, fragment C, can be delivered via the mucosal immune system using such strains of bacteria. This results in the induction of a fully protective immune response to subsequent challenge with native tetanus toxin.

IPC 1-7
A61K 39/02; **A61K 39/112**; **A61K 39/108**; **A61K 39/106**; **A61K 39/102**; **A61K 39/095**; **A61K 39/10**

IPC 8 full level
C12N 15/01 (2006.01); **A61K 39/02** (2006.01); **A61K 39/095** (2006.01); **A61K 39/10** (2006.01); **A61K 39/102** (2006.01); **A61K 39/106** (2006.01); **A61K 39/108** (2006.01); **A61K 39/112** (2006.01); **A61P 31/04** (2006.01); **C12N 1/20** (2006.01); **C12N 1/21** (2006.01); **C12N 1/36** (2006.01); **C12R 1/42** (2006.01)

CPC (source: EP)
A61K 39/0275 (2013.01); **A61P 31/04** (2017.12); **C12N 1/20** (2013.01); **A61K 2039/522** (2013.01); **A61K 2039/542** (2013.01); **Y02A 50/30** (2017.12)

Citation (search report)
See references of WO 9929342A1

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
WO 9929342 A1 19990617; AT E277632 T1 20041015; AU 1496099 A 19990628; AU 739191 B2 20011004; CA 2313703 A1 19990617; DE 69826712 D1 20041104; DE 69826712 T2 20060209; EP 1037664 A1 20000927; EP 1037664 B1 20040929; ES 2230729 T3 20050501; GB 9726233 D0 19980211; JP 2001525375 A 20011211

DOCDB simple family (application)
GB 9803680 W 19981210; AT 98959023 T 19981210; AU 1496099 A 19981210; CA 2313703 A 19981210; DE 69826712 T 19981210; EP 98959023 A 19981210; ES 98959023 T 19981210; GB 9726233 A 19971211; JP 2000524011 A 19981210